

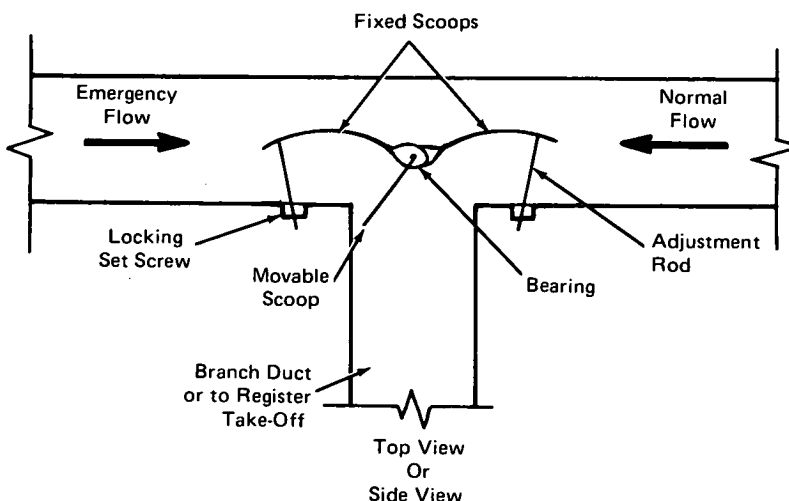
NASA TECH BRIEF

Goddard Space Flight Center



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Automatic Air Flow Control in Air Conditioning Ducts



The problem:

When a building uses at least two air conditioning units located at its opposite ends, their ducts may be converged to any given area so that air supply to that area is uninterrupted in the event of one unit breakdown. With the two ducts converging to a branch connection, it is necessary to select the air flow from one of the two opposite directions. Unfortunately, commercially available air volume control scoops are not designed for such selection.

The solution:

A device was designed which automatically selects air flow coming from either of the two directions and which can be adjusted to the desired air volume on either side.

How it's done:

The device, as shown in the figure, uses one movable and two fixed scoops. When the normal air flow is on,

the movable scoop directs the air to the branch duct or register take-off. In the event of breakdown in the primary unit, the emergency-flow inlet will open to provide uninterrupted air flow. Air volume from each direction is controlled by fixed scoops which are adjusted by their adjustment rods. Once the scoops are balanced with adjustment rods, they do not have to be adjusted again.

Notes:

1. The described configuration may be used on any branch duct connection and also in the supply of register take-off.
2. Requests for further information may be directed to:
Technology Utilization Officer
Goddard Space Flight Center
Code 207.1
Greenbelt, Maryland 20771
Reference: TSP72-10490

(continued overleaf)

Patent status:

This invention has been patented by NASA (U.S. Patent No. 3,818,814). Inquiries concerning nonexclusive or exclusive license for its commercial development should be addressed to:

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